

established for reference groups of subjects classified by age, sex, health condition and other signs.

Abstract

METHOD OF ASSESSING THE FUNCTIONAL CONDITION OF CARDIOVASCULAR SYSTEM

The invention relates to medicine, namely: to cardiology, and may be used for assessment of functional condition of the human cardiovascular system (CVS) and the character of its control by the autonomic nervous system and other regulatory systems of the homeostasis. A method of non-invasive examination of the human CVS was developed, the method enabling to continuously, during a necessary period of time and quite simply with the aid of a computer and a piezoceramic transducer (Fig. 3), record differential sphygmograms (Fig. 4) and by these sphygmograms using the method of determining the "coding" points to perform express-analysis simultaneously of two main pulse characteristics: a) rhythmicity and b) pulse oscillation of the arterial pressure (AP). The automatic disposition of the "coding" points in the averaged graph of the cardiocycle and their additional visual correction (Fig. 5) guarantee precision of determining the amplitude-temporal parameters at each recognised normal pulsation of a selected pulsogram fragment. By this fragment, the cardiac rhythm and all the amplitude-temporal cardiohemodynamic parameters will be measured and analysed, the parameters characterising the left ventricle myocardium contractile capacity as well as the resilient-elastic properties of the arterial bed vessel walls. For this purpose, the conventional units of the computer "digitizing" will be calibrated and transformed into accepted units of the blood AP measurement (mm Hg) and then, by means of integrating by respective areas of the cardiocycle graphs, the values of the blood AP pulse increment will be determined for different stages of the cardiac cycle. The continuous monitoring of the pulsogram parameter changes provides fulfilment of spectral analysis of the cardiac rhythm variability as well as of the selected cardiohemodynamic parameters. By results of the statistical and spectral analyses of the measured parameters' variability, the functional condition and the character of the subject's CVS vegetative regulation will be assessed by comparing the obtained values with the average statistical numerical values of these same parameters established for the CVS of groups of people who were selected as control subjects. The results may be used for resolving the problems of differential diagnosis of the cardiovascular diseases under clinical conditions, for individual examination of patients as well as for performing an operative medical checkup of health condition in various groups of population.